National Weather Service

Decision Support Newsletter
Winter 2011-12

Springfield, Missouri

www.weather.gov/springfield

This publication has been designed to enhance readiness and decision response by the emergency management community. Winter storms can be dangerous across the Missouri Ozarks and southeast Kansas. Winter weather can change drastically bringing bitter cold, heavy snow and devastating ice storms.

Inside this issue:

Contributing Members

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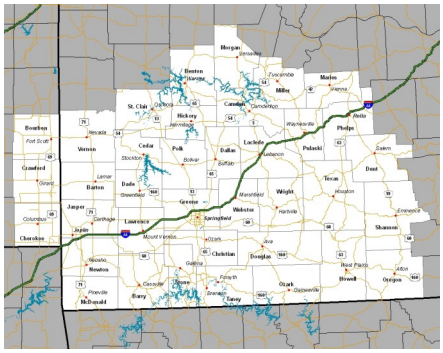
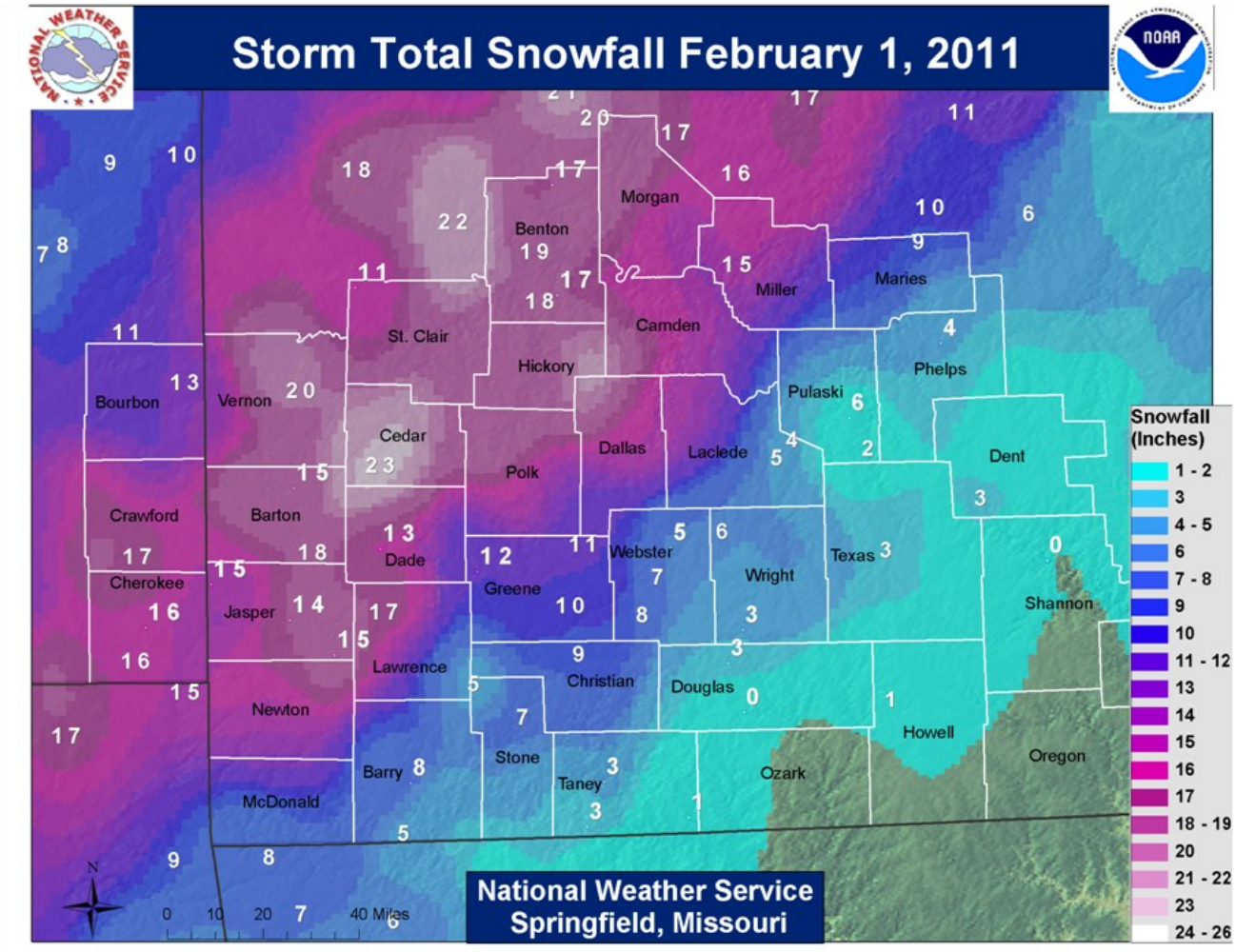
NWS Springfield has forecast and warning responsibility for 34 counties in the Missouri Ozarks and 3 counties in southeast Kansas.



NWS Springfield strives to serve decision makers with accurate and timely weather information.

Remembering the Blizzard of 2011

On February 1st, 2011, a powerful and crippling winter storm impacted much of the Missouri Ozarks, southeast Kansas and the surrounding region from Oklahoma northeast to Illinois. The magnitude, scope and impact from this winter storm made it unique and in some cases historic. Snow accumulations from a foot to near 20" covered a wide and extended swath. Snowfall rates were near 2" per hour at times and thunder snow was reported. In addition, northerly winds of 20 to 40 mph caused white out conditions at times with the visibility reported to be less than a 100 ft. Many secondary roads became impassable and Interstates 44 and 70 were closed for a time.



Collaboration with emergency management, department of transportation, and other agencies prior to and during this major winter storm was crucial. National Weather Service Springfield desires to continue to strengthen partnerships with core agencies in order to provide the highest quality winter weather information possible this coming winter.

Thank you for partnering with us!

A Call to Partnership

Building a Weather-Ready Nation

Partnership Call to Action

The National Weather Service invites you to help Americans and our communities become more resilient to the constant threat of extreme weather. Much of the impacts from extreme weather like lost lives and injuries can be reduced with improved readiness and delivery of information through advanced communications technology, which is why this initiative is so important.

Increased Vulnerability to Extreme Weather

The United States has so far this year experienced ten separate disasters each with an economic loss of $1 billion or more - breaking the record set in 2008. 2011 in the history books:

- 4th deadliest tornado year in U.S. history…546 deaths…157 of which occurred in Joplin, making it the deadliest single tornado in 65 years.
- Oklahoma broke the record for hottest month for any state with 89.1 degree average in July.
- Flooding and wildfires have claimed millions of acres of land.

According to Munich Reinsurance, the number of natural disasters in the U.S. has tripled in the last 20 years and 2010 was a record breaker with about 250 and property losses from severe weather events have increased five-fold since 1980. These extreme impacts are clear evidence of our increased vulnerability due to societal changes…such as.

- Population growth and increased density in high-risk areas like the coasts,
- More expensive and vulnerable structures that are not strong enough to withstand even weak tornadoes or strong winds.
- Increased dependence on technology, and
- Even communities not able to withstand either too much or too little water.

A Shared Vision

2011 is a Year of Extremes -- extreme impacts from weather, water, and climate events

NOAA National Weather Service and Partners are moving from concern to action.

Our vision is to build a Weather-Ready Nation where individuals and society are prepared for and respond proactively to weather-dependent events.

The success of this vision will be measured by the accuracy of forecasts and by how effectively it is applied in saving lives and livelihoods.

A Weather-Ready Nation is better prepared to protect, mitigate, respond to and recover through systematic preparation for weather-related disasters (droughts, wildfires, hurricanes, tornadoes, solar storms, floods, and more).

Actions from National Weather Service and our Partners

Society's ability to prepare for natural disasters requires a societal response equal to the risk.

Government cannot do this alone. There is a vast nationwide network of Partners who share the vision of building a Weather-Ready Nation.

Partners include prominent individuals, other government agencies and emergency managers, researchers, the media, insurance industry, non-profits, the private sector and more.

Winter Storm Products

National Weather Service (NWS) Springfield issues a suite of forecast services including Winter Storm Watches, Warnings, and Advisories for 34 counties in southwest Missouri and 3 counties in extreme southeast Kansas.

Winter weather products are issued following a "Ready" "Set" "Go" concept as the event approaches and confidence of occurrence increases.

- Hazardous Weather Outlook — 2-7 days
- Winter Storm Watch — 1 to 3 days
- Winter Storm Warning — 8 to 18 hours
- Winter Storm Warning — 0 to 6 hours
- Winter Storm Warning Updates — In event
- Forecast updates — End Event

Issue daily Hazardous Weather Outlooks to highlight potential weather hazards through 7 days.

http://www.crh.noaa.gov/sgf/?n=hwo

Issue Winter Storm Watches 12 to 48 hours in advance of a winter storm.

http://www.crh.noaa.gov/sgf/?n=winter_briefing

Issue Winter Storm Warnings up to 24 hours in advance.

http://www.crh.noaa.gov/sgf/?n=winter_briefing

Warnings and advisories are issued for expected or occurring winter weather conditions meeting a specific criteria.

Winter Storm Watches

Issued for the possibility of severe winter conditions meeting warning criteria between 18 and 48 hours.

- Heavy snow accumulations of ≥6"
- Sleet accumulations ≥ 1/2"
- Combination of significant snow (≥3") & ice accumulations (≥1/8")

Winter Storm Warnings

Issued when severe weather conditions are expected within 18 hours.

- Heavy snow accumulations of ≥6"
- Sleet accumulations ≥ 1/2"
- Combination of significant snow (≥3") & ice accumulations ≥1/8")

Ice Storm Warning are issued for ice accumulations from freezing rain ≥1/4".

Winter Weather Advisories

Issued for less significant accumulations of snow and ice to occur within 18 hours that can be hazardous if proper precautions are not taken.

- Snow accumulations ≤ 5"
- Combination of snow (≤ 3"and minor ice accumulations)

Multi-Media Weather Briefings

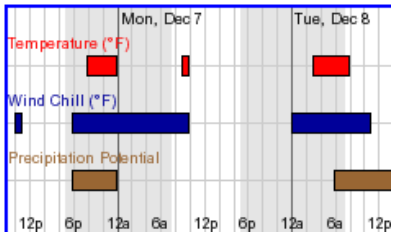
NWS Springfield produces Multi-Media Hazardous Weather Briefings. The video briefings available on the web provide a summarized briefing of anticipated hazardous weather including winter storms.

These briefings are not a substitute for other NWS products and warnings, but serves to compliment these services.

http://www.crh.noaa.gov/sgf/?n=webbriefing

Winter Weather Forecast Tools

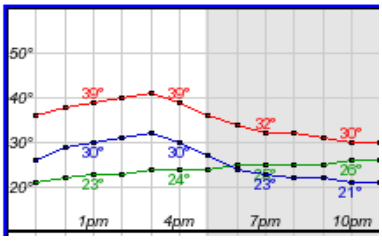
Weather Planner



This interactive forecast display is intended for general planning purposes. This application generates products from a digital forecast data base. It is intended to allow a user to define and produce a forecast for general planning purposes For instance, you can define what temperature, wind and wind chill values or interest may occur.

http://forecast.weather.gov/wxplanner.php?site=sgf

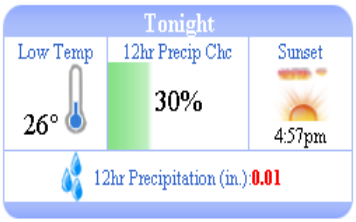
Interactive Forecast Map



Hourly Weather Graphs and tables are available using the interactive forecast map. Simply select the forecast format you desire and select the location of choice. This can be useful in tracking critical temperature trends , etc.

http://forecast.weather.gov/gridpoint.php?site=sgf

Quickcast Graphics



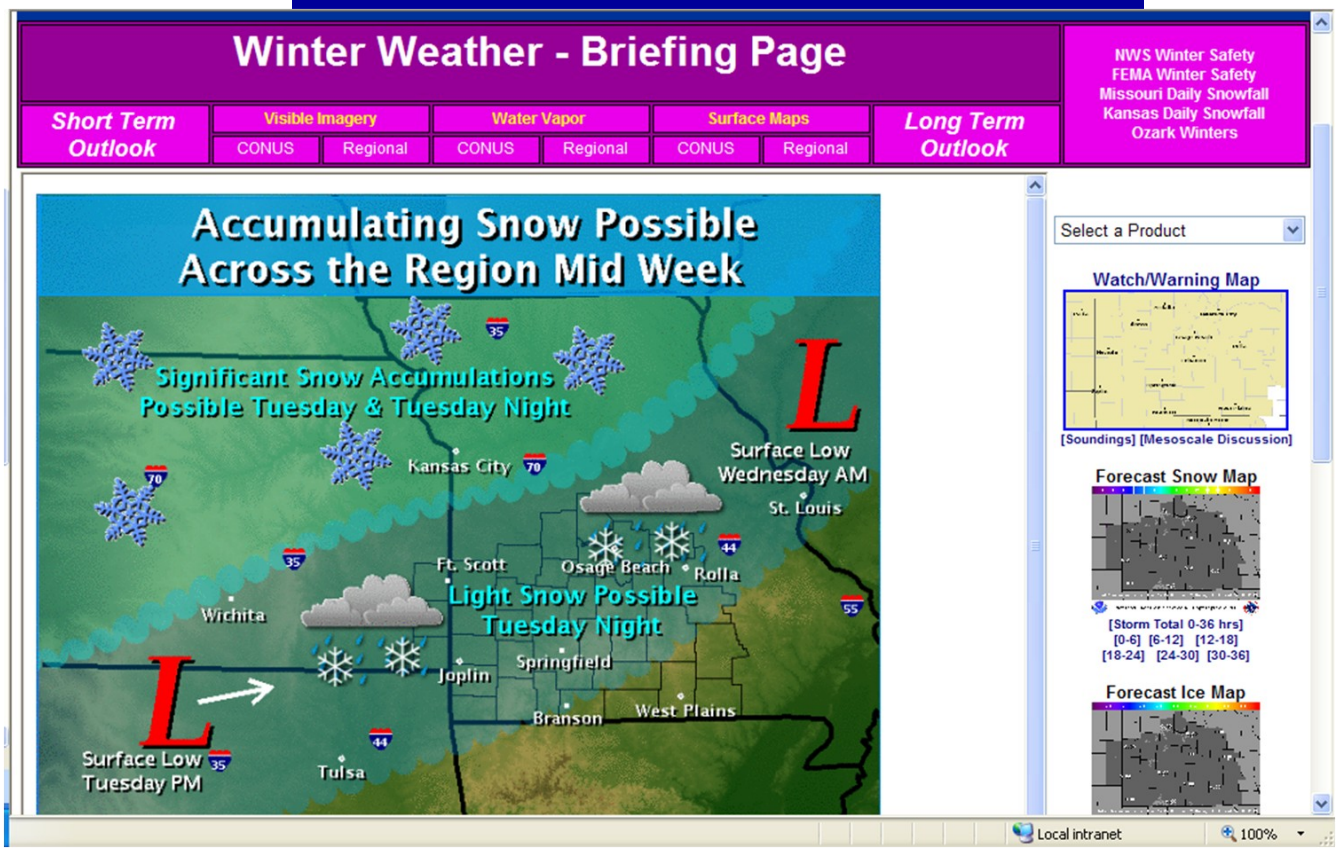
The Quickcast provides the forecast for your location of choice utilizing images

http://forecast.weather.gov/afm/graphical.php?site=sgf

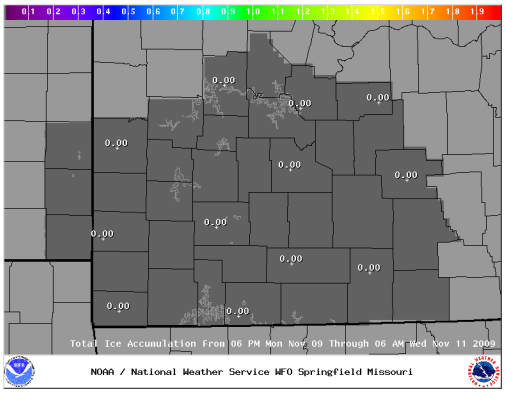
Winter Weather Web Briefing & Decision Support Pages

Knowing that time is short, the NWS has created briefing pages to serve as one stop shops for winter storms, severe weather, heavy rain, drought, and recreational forecasts. By quickly highlighting the threats, these sets of graphics provide instant situational awareness.

http://www.crh.noaa.gov/sgf/?n=winter_briefing



Snowfall and Ice Accumulation Forecast Graphics



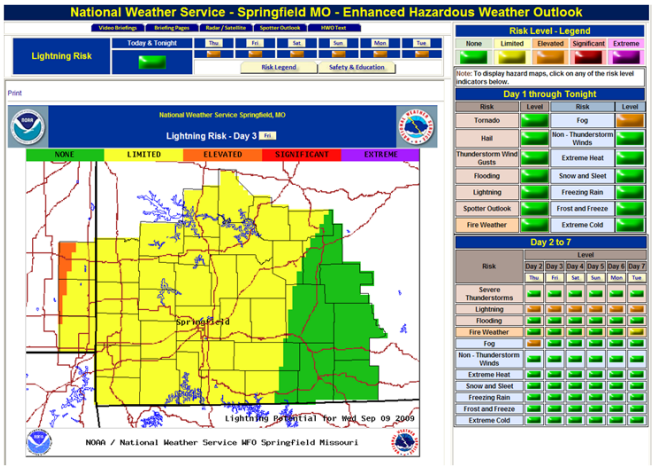
Snowfall forecast graphic depicting forecast snowfall accumulations in six hour increments in addition to the storm total will be provided this winter.

These graphics are derived directly from the Graphical Forecast Editor that forecasters utilize to create the forecast.

These graphics can be found on the Winter Weather Briefing web page.

Enhanced Hazardous Weather Outlook—Winter

The Enhanced Hazardous Weather Outlook (EHWO) can be used as a decision support tool prior to and during winter weather events to supports preparedness and response efforts. The EHWO provides a graphical depiction of weather hazards through day seven. The EHWO packages five-level, color coded alert buttons and text within a comprehensive web page suite.



The EHWO has been accepted as an official National Weather Service experimental product. You can complete a survey at :

http://www.weather.gov/survey/nws-survey.php?code=ehhwo

EHWO Snow & Sleet Risk Level Definitions

Risk Level	Definition
None	No snow or sleet.
Limited	Snow and/or sleet with less than 1 inch of accumulation expected.
Elevated	Snow and/or sleet with 1 to 5.9 inches of accumulation expected.
Significant	Snow and/or sleet with 6 to 11.9 inches of accumulation expected.
Extreme	Snow and/or sleet with greater than or equal to12 inches of accumulation expected.

EHWO Extreme Cold Risk Level Definitions

Risk Level	Definition
None	Minimum apparent temperature greater than or equal to 10 degrees F.
Limited	Minimum apparent temperature -9 to 9 deg F.
Elevated	Minimum apparent temperature -10 to -24 deg. F
Significant	Minimum apparent temperature -25 to -34 deg. F.
Extreme	Minimum apparent temperature less than or equal to -35 degrees F

EHWO Freezing Rain Risk Level Definitions

Risk Level	Definition
None	No freezing rain or drizzle.
Limited	Very light freezing rain or drizzle with no accumulation.
Elevated	Freezing rain or drizzle with accumulation less than 1/4 inch.
Significant	Freezing rain with accumulation of 1/4 inch to less than 1 inch.
Extreme	Freezing rain with accumulation of greater than or equal to 1 inch.

http://www.crh.noaa.gov/sgf/?n=dec_sup_main

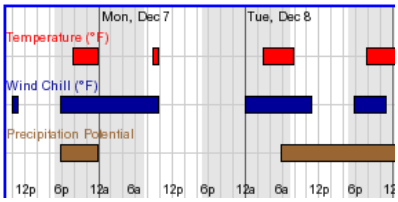
Wind Chill Chart

Wind (mph)	Temperature (°F)																
	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97

Frostbite Times: 30 Minutes | 10 Minutes | 5 Minutes

http://www.nws.noaa.gov/om/windchill/

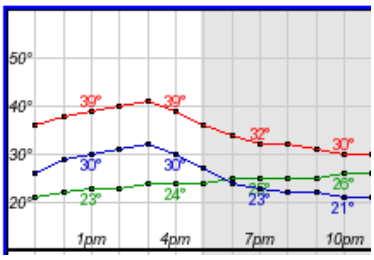
http://www.nws.noaa.gov/os/windchill/windchillglossary.shtml



Wind Chill Forecast in the Weather Planner

This interactive forecast display can be utilized to define and observe forecast wind chill values.

http://forecast.weather.gov/wxplanner.php?site=sgf

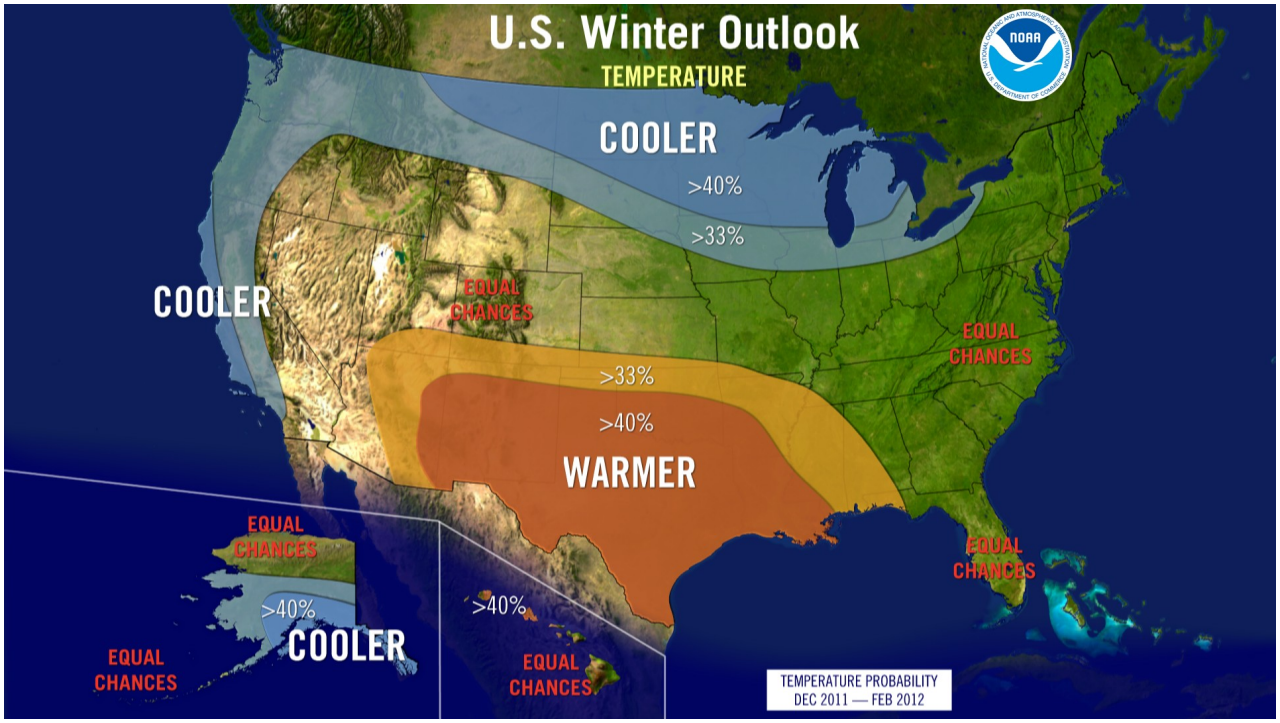


Interactive Wind Chill Forecast Graphs

Hourly Weather Graphs and tables can be utilized to view temperature and wind chill trends. Simply select the forecast format you desire and select the location of choice.

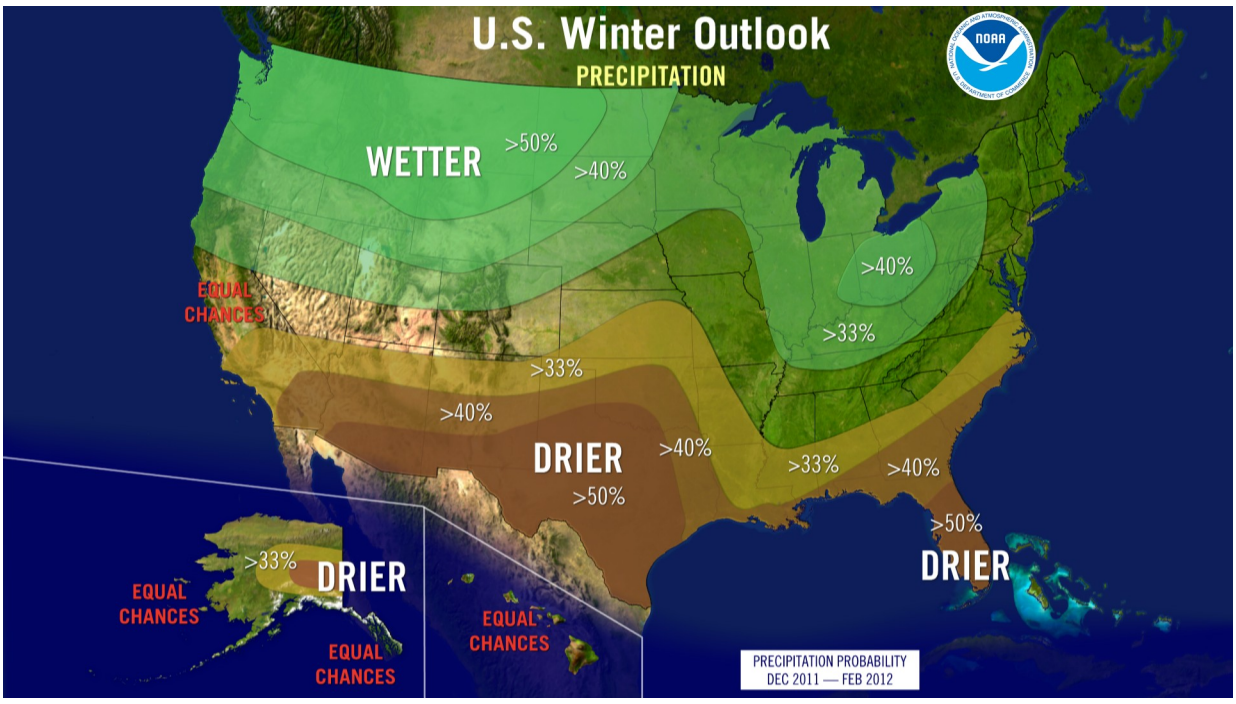
http://forecast.weather.gov/gridpoint.php?site=sgf

Winter Weather Outlook 2011-12

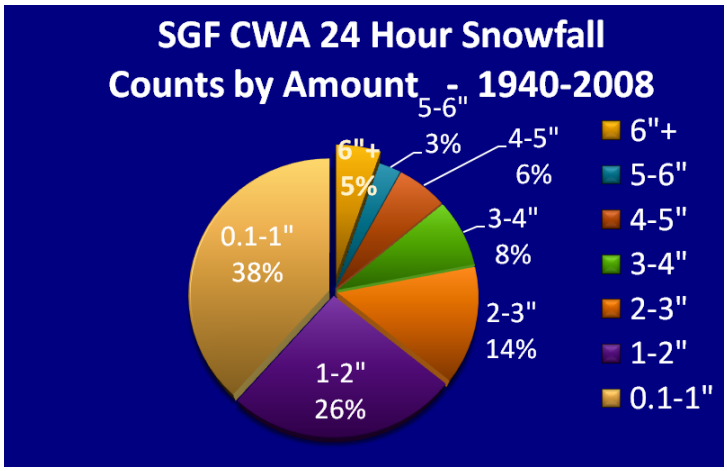


The Climate Prediction Center is indicating nearly equal chances of above or below temperatures and precipitation from December through February. For more details go to the link below.

http://www.noaanews.noaa.gov/stories2011/20111020_winteroutlook.html

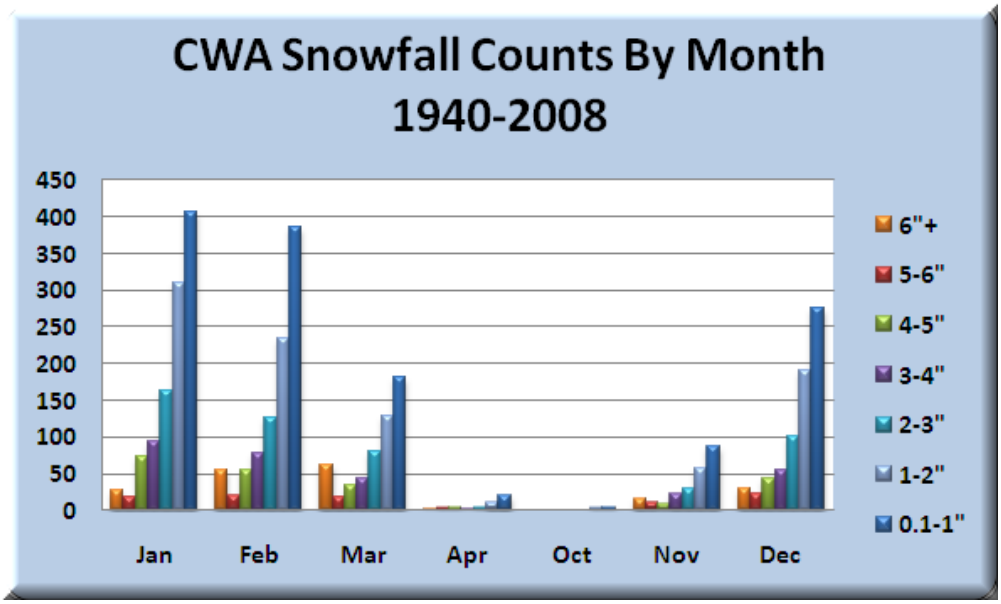


How often do we get big snows?



NWS Springfield conducted a study to assess the magnitude and frequency of snowfall events across the forecast area. The sample for this study included several Cooperative Observation sites across southwest Missouri.

Comparing snowfall events since 1940 shows that the majority of snowfall events are below 6 inches. Only ~ 5 percent of winter storm events produce accumulations of 6 inches or more.



The chart above depicts the number of snowfall events for each month.

The majority of snowfall across the Missouri Ozarks and extreme southeast Kansas from December through February. The heavier snows tend to fall in January and February but a relatively significant number of events in March are above 6 inches.

iNWS—Interactive NWS

National Weather Service Mobile Decision Support Services (MDSS)

iNWS MOBILE ALERTING

Receive customized text message and e-mail alerts for National Weather Service products that you care about.

http://inws.wrh.noaa.gov/

InteractiveNWS (iNWS) is the home of new mobile and desktop innovations of the National Weather Service. This application suite allows NWS partners to receive National Weather Service products in new and innovative ways, such as text messaging and mobile-enabled webpages. iNWS strives to fulfill our mission of protecting life and property by using new technology to reach out to our customers.

NWSChat

National Weather Service Chat

NWSChat is an Instant Messaging program utilized by NWS operational personnel to share critical warning decision expertise and other types of significant weather information essential to the NWS's mission of saving lives and property. This information is exchanged in real-time with the media and emergency response community, who in turn play a key role in communicating the NWS's hazardous weather messages to the public.

https://nwschat.weather.gov/

RSS Feeds

Really Simple Syndication (RSS) is a family of web formats used to publish frequently updated digital content. RSS feeds are most commonly used to update news articles and other content that changes quickly. Users of RSS content 'subscribes' to a feed by entering the link of the RSS feed into their RSS feed reader; the RSS feed reader then checks the subscribed feeds to see if any have new content since the last time it checked, and if so, retrieves the new content and present it to the user.

Local NWS Springfield RSS page - http://www.crh.noaa.gov/sgf/?n=sgf_rss

Decision Support Newsletter Winter 2011-12

National Weather Service
Springfield, MO Weather Forecast Office
Springfield-Branson Regional Airport
5805 West Highway EE
Springfield, MO 65802-8430

The mission of the National Weather Service :

The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy.

NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community.

http://www.weather.gov/springfield

Snowfall Data Resources

National Operational Hydrologic Remote Sensing Center

http://www.nohrsc.noaa.gov/

Climatic Data Center

http://www.ncdc.noaa.gov/snow-and-ice/

Midwest Climate Center

http://mrcc.isws.illinois.edu/